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August 4, 1998

**VIA COURIER**

Peter Doyle,  
Assistant Chief  
Audio Services Division  
Mass Media Bureau  
Federal Communications Commission  
Room 302  
1919 M Street, NW  
Washington, DC 20554

Re:        Sunrise Broadcasting of New York, Inc.  
         MM Docket No. 87-267  
         Reference No. 1800B3-PHD \_\_\_\_\_

Dear Peter:

As we discussed, the purpose of this letter is (1) to submit the attached letter from Clarence M. Beverage with Communications Technologies, Inc., which in turn includes a separate letter from Hank Brandenburg with Dataworld, concerning the Commission's supplement to the record in the above-referenced proceeding with certain computer programs utilized by the Commission in developing an allocation plan for the Expanded Band and (2) to provide a framework for the establishment of a schedule for the submission of final comments by Sunrise Broadcasting of New York, Inc. ("Sunrise") with respect to the aforementioned supplemental record.

The attached letters constitute Sunrise's preliminary response to the computer programs provided to Sunrise to date. The analysis of Communications Technologies, Inc. and Dataworld concludes, in essence, that (1) the computer programs placed in the record did not include approximately forty (40) external files used in the Commission's calculation of improvement factors, (2) after extensive study and review, Dataworld could not replicate the allocation results generated by the Commission without use of those external files, (3) based on the manual tabulations performed by Communications Technologies, Inc., it appears that the Commission gave parties credit in the tabulation of the improvement factors for interference over water, which would be inconsistent with applicable Commission rules and long-standing practice, and (4) if no credit were given for interference over water, WGNV, which is licensed to Sunrise, would have received an allocation (perhaps on 1640 kHz, which remains vacant). In sum, the preliminary engineering analysis indicates that WGNV should have received an Expanded Band allotment if no preclusive effect were given to Federal Travelers Information Services ("TIS") stations.

*OLY*

Peter Doyle  
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At this juncture, it is impossible for us to determine whether access to the aforementioned external files would have any impact on the engineering analysis. If you and your staff conclude that review of those files will have an impact, it would be useful to discuss the nature of the anticipated impact so that a determination could be made as to whether the external files should be placed in the record and the comment deadline extended accordingly. If access to those external files will not have any impact on the analysis set forth in the attached letters from Communications Technologies, Inc. and Dataworld, it would be possible to establish an earlier deadline for the submission of final comments.


It may also be useful to provide a preliminary response to the issue discussed in our telephone conversation as to whether Sunrise can comment on improvement factors and matters other than the direct preclusive effect of Federal TIS stations. To begin with, Sunrise's Petition For Review in the court identified issues which were sufficiently broad to encompass further comments on improvement factors and other matters related to any supplement to the record. For example, Sunrise sought relief because, *inter alia*, "[t]he FCC decision denying Sunrise's migration petition was otherwise arbitrary and capricious and not in accord with the law." Petition for Review (June 25, 1997) at 4. In that context, it would not matter that Sunrise's opening brief focused on the impact of Federal TIS stations. The court remanded the entire case to the Commission without an order or instructions, and it would plainly be an abuse of discretion for the Commission to supplement the record with new evidence and then severely limit Sunrise's ability to comment on the significance of that new evidence. This is especially so since (1) the order subject to the Petition for Review plainly appeared to place sole reliance on the preclusive effect of Federal TIS stations, (2) the underlying computer programs were not in the record and cannot be easily duplicated, and (3) in opposing the Commission's limited remand motion, Sunrise explicitly made reference to the need to review the computer programs from a perspective that extended beyond Federal TIS stations. See *Motor Vehicles Mfrs. Ass'n. v. State Farm Mut.*, 463 U.S. 29, 43 (1983) (agency "would be arbitrary and capricious" if it "entirely failed to consider an important aspect of the problem").

In any event, I do want to thank you again for your time and cooperation. I look forward to hearing from you so that we can move forward toward the submission of final comments and a resolution of the matter.

Sincerely,

DICKSTEIN SHAPIRO MORIN &  
OSHINSKY LLP

Attorneys for Sunrise Broadcasting of  
New York, Inc.

By:   
Lewis J. Paper

Peter Doyle  
August 4, 1998  
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LJP/sl  
Attachments

cc: Joerg G. Klebe  
Clarence M. Beverage  
Hank Brandenburg

COMMUNICATIONS TECHNOLOGIES, INC.

BROADCAST ENGINEERING CONSULTANTS

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CONSULTANT  
JAMES W. POLLOCK P.E.

CLARENCE M. BEVERAGE  
LAURA M. MIZRAHI

VIA FEDERAL EXPRESS

August 4, 1998

Lewis J. Paper, Esq.  
Dickstein Shapiro Morin & Oshinsky LLP  
2101 L Street, NW  
Washington, D.C. 20037-1526

RE: WGNY-AM, Newburgh, NY  
MM Docket 87-267, AM Expanded Band Proceeding

Dear Mr. Paper:

The purpose of this letter is to report our findings to date concerning WGNY-AM, Newburgh, New York ("WGNY"). As you know, we have been working with Hank Brandenburg at Dataworld to review the methodologies utilized by the FCC in developing an Expanded Band Allotment Plan to determine if WGNY was properly precluded from receiving an expanded band allotment (assuming no preclusive effect for Federal Travelers Information Services Stations).

A letter from Mr. Brandenburg with Dataworld's review of the FCC methodology is attached. Having worked closely with Dataworld over the last few months, I am confident that Dataworld's conclusion accurately reflects the results of their indepth studies.

As explained in Mr. Brandenburg's letter, the underlying FCC Fortran programs used by the FCC for calculating service areas, interference, and ranking factors could not be duplicated by Dataworld because the FCC did not provide over 40 files with necessary data. As a result, my office conducted limited manual studies on behalf of WGNY to ascertain if the FCC calculated the improvement factors correctly. To some extent, this review reflected comments in WGNY's April 22, 1996 "Petition For Reconsideration Of Non-Inclusion In Expanded AM Band Allotment Plan," at paragraph 3, where it was stated that significant database and improvement factor errors in Allotment Plan II required a rescission of the Plan and further perfecting of the applicable computer program.

As you know, the FCC made allotments to the expanded band by ranking the stations according to interference improvement factors which were calculated for AM stations that applied for allotments. The improvement factor thus determines the likelihood that a station will be given an expanded band allotment. A station with a high improvement

factor will be chosen over a station in the same area with a low improvement factor. Improvement factors were published by the FCC on March 22, 1996. To see how the improvement factor impacted the allotment of frequencies in the expanded band, we generated the following improvement factors for WGNV and nearby stations in the northeast that received an expanded band allotment:

Station	Community	Improvement Factor
WJRZ	Toms River, NJ	37.5019
WTRY	Troy, NY	9.0815
WHWH	Princeton, NJ	11.4340
WZNN	Rochester, NH	4.7146
WGNV	Newburgh, NY	3.9929

The improvement factor for a given station is computed for both daytime and nighttime operation. For daytime operation, the size of the 0.5 mV/m contour is computed in square kilometers. The area of interference to co-channel and first adjacent channel stations is then computed and the areas of interference are added together. The daytime improvement factor is the area of interference divided by the 0.5 mV/m service area adjusted for any interference received. As an example, the WGNV 0.5 mV/m service contour covers an area of 12,109 square kilometers. WGNV's 1200 kHz CP facility creates contour overlap with (1) WLAL, Cobleskill, NY - 1190 kHz of 175 sq. km, (2) WLIB, New York, NY - 1190 kHz of 1,410 sq. km, (3) WKOX, Framingham, MA - 1200 kHz of 1,060 sq. km, and (4) WRKK, Hughesville, PA - 1200 kHz of 2,432 sq. km. The sum of the interference areas (5,077 sq. km) divided by 12,109 sq. km, less 3,795 sq. km of received overlap from WKOX and WLIB, gives a daytime improvement factor of 0.6107.

The nighttime improvement factor is based on the nighttime interference free service area (for WGNV the 21.7 mV/m contour covers 164.3 square kilometers) divided by the increased area of other nighttime stations on the channel with WGNV omitted from the calculation of nighttime interference on a 0% RSS. For WGNV the nighttime interference reduction to WPHY, Philadelphia, PA 1210 kHz is 541.6 sq. km, with an additional reduction to WTLA, North Syracuse, NY - 1200 kHz of 19.8 sq. km, results in a total reduction of 561.4 sq. km and a nighttime improvement factor of 3.4169. Adding the day and night improvement factors together yields the total improvement factor of 4.0276, which yields close agreement (less than 1% deviation) with the FCC calculated value of 3.9929.

As we became more familiar with these computations, it appeared that the FCC interference computations included over water overlap areas. In other words, the FCC method appears to give an inflated improvement factor where theoretical interference occurs over the Atlantic Ocean. Since WTRY in Troy, New York is in close geographic proximity to WGNY, we ran computations on WTRY's combined day and night improvement factors. We computed WTRY's improvement factor (without over water interference) to be no more than 2.0. When we included over water interference from WTRY to WZAN, Portland, ME - 970 kHz, the area change between the 5.47 mV/m and 4.42 mV/m nighttime interference free contours (NIF) increased by 6,661 square kilometers. In other words, WTRY's improvement factor was 50% of WGNY's without over water interference and approximately 2½ times greater with over water interference. A similar problem appears to exist with WJRZ, Toms River, New Jersey. Based on an initial look at this station, the very large improvement factor appears to reflect credit for immense areas of over water overlap to co-channel and first adjacent channel stations.

Commission rules and established practice preclude considering over water interference in AM allocation or coverage matters. See 47 C.F.R. 73.37 Note 2. The FCC's apparent inclusion of over water overlap in its improvement factor calculations unfairly prejudices stations such as WGNY that are not involved in over water overlap. More importantly, the whole purpose for computing improvement factors was to move the stations associated with the greatest interference off the existing AM band to improve the quality of existing AM service. Inclusion of over water overlap in the interference factor computations thwarts the goal as there are no people in the over water overlap areas to experience an improvement.

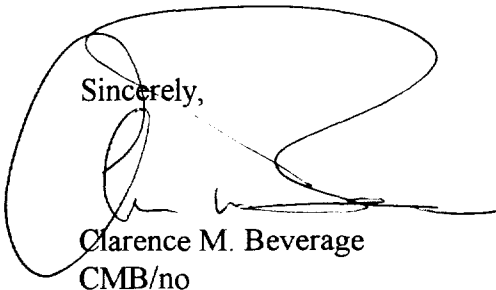
Based on the manual calculations and the foregoing analysis, it seems clear that WGNY did not obtain an allotment because other stations in the Northeast were ranked higher than WGNY due to improper inclusion of over water overlap. Some stations which received an allotment probably would have received one if properly ranked. Just one example would appear to be WTRY, Troy, New York.

Please note that WTRY did not file a 301 application for the expanded band. The 1640 kHz frequency allotted to WTRY is now vacant and unused. Thus, WGNY can utilize the 1640 kHz frequency without impacting the existing allotment plan. WGNY meets the adjacent channel expanded band allotment distance requirements and the 800 km co-channel requirement to every station with the exception of a 789.9 km separation to WSYD, Mount Airy, NC - a 10.1 km shortfall which would have to be deemed *de minimis* under the present circumstances.

Lewis J. Paper, Esq.  
August 4, 1998  
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In conclusion, we find the following: (1) based on the Dataworld studies, the computer programs utilized by the FCC, which excluded WGNY from obtaining an expanded band allotment, are not readily verifiable and yield unrepeatable and unreliable results; (2) the FCC computation of improvement factors appears to be flawed by the improper inclusion of interference over water; and (3) WGNY was precluded from an expanded band allotment by stations which should have had lower improvement factor rankings.

Sincerely,

A handwritten signature in black ink, appearing to read 'Clarence M. Beverage', is written over the word 'Sincerely,'. The signature is fluid and cursive, with a large loop at the end.

Clarence M. Beverage  
CMB/no

encl.



*Established 1971*

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July 24, 1998

Mr. Clarence M. Beverage  
Communications Technologies, Inc.  
P.O. Box 1130  
Marlton, NJ 08053

RE:    WGNV-AM Expanded Band  
         Newburgh, NY

Dear Mr. Beverage:

This letter concerns your request for computer programming and analysis services on behalf of WGNV (AM) in Newburgh, NY. More specifically, you asked Dataworld to review the computer programs of the Federal Communications Commission (FCC) to determine whether the FCC correctly concluded that WGNV was not entitled to an Expanded Band allocation even if no consideration was given to the preclusive effect of Federal Travelers Information Services (TIS) stations.

To date, we have spent considerable time and effort in analyzing software developed by the FCC and used in the Expanded Band Proceeding. The software falls into two broad categories.

The first category of software programs is written in a computer language called FORTRAN. The FCC used FORTRAN programs for the purpose of calculating the size of daytime and nighttime service and interference areas for all AM station which were considered eligible for the Expanded Band. The FORTRAN programs were also used to calculate an improvement factor for each AM station. The improvement factor assigned to each station is of great importance because the greater the improvement factor, the greater the chance that a station would be given an Expanded Band frequency.

The second category of software programs is written in the "C" computer language. These programs are very simple compared to the FORTRAN programs and were used for the purpose of matching stations to available frequencies.

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July 24, 1998

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I present now a summary of the work effort by our firm to date and the associated conclusions.

- 1) Initially, we received from the FCC (see letter dated March 31, 1998 from Peter H. Doyle) copies of software, specifically programs written in the "C" computer language, which were used in the final optimization of the frequencies. This software accomplished the actual assignment of new frequencies to AM stations deemed eligible by the FCC. We examined the software and concluded that all of the programs were not supplied. Subsequently, Mr. Paper's office contacted the FCC and secured additional "C" programs that had been utilized by the FCC in making allocations.
- 2) Our review of the Expanded Bank proceeding and the "C" software led us to the conclusion that it was necessary to examine additional software used by the FCC in the preliminary analysis of the stations, i.e., development of improvement factor. We therefore requested the FORTRAN programs from the FCC which were used in the FCC underlying calculations. These FORTRAN programs performed critical functions such as day and night ranking calculations, distance to contours, and interference areas. The source code for these FORTRAN programs was large, totaling more that 12,000 lines of computer code. However, more that 40 external files are required to operate the FORTRAN programs. These external files, which contain soil conductivity databases and groundwave propagation curves, are as follows:

M3ran.rel	R2ran.rel	Coordata	Nite.ctl
Nsm540	Nsm570	Nsm600	Nsm630
Nsm820	Nsm870	Nsm920	Nsm970
Nsm1040	Nsm1110	Nsm1180	Nsm1250
Nsm1340	Nsm1430	Nsm1520	Nsm1620
Nsm1650	Sm540	Sm570	Sm600
Sm630	Sm660	Sm690	Sm720
Sm770	Sm820	Sm870	Sm920
Sm970	Sm1040	Sm1110	Sm1180
Sm1250	Sm1340	Sm1430	Sm1520
Sm1620	Sm1650		

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- 3) The FORTRAN code programs described above were examined to determine how many man hours would be required to make the software run on our computer system with the external files (which we do not have). It should be noted that we are very familiar with FCC programs, having a number of them running on our time share computer system. We determined that, even with our prior experience, it would require at least 160 man hours to get the programs operational and an equally substantial amount of time to complete the run. A firm with less experience would require considerably more than the 160 man hours we project just to get the programs up and working. Actual running of the programs to obtain meaningful output results would take additional time. In either case, the cost to run the FORTRAN code programs would be in the \$20,000.00 to \$25,000.00 range at a minimum. If errors or discrepancies were detected and programs had to be re-run, the cost would obviously be higher.
- 4) We therefore decided to focus our mixed effort on the final-stage "C" programs supplied by the FCC in the hope that access to the external files and the substantial effort required by their inclusion would be unnecessary. We configured the "C" program to operate on our system, making only the minimal necessary implementation changes to the code in order to make it operate on our computer system. We then made runs with the program, using input data supplied to us by the FCC, to verify operation and to determine whether we would obtain the same results as the FCC (as found in Tab 1 of the attachments to Mr. Doyle's letter of March 31, 1998).

The test run did not produce the results obtained by the FCC. Rather our test run produced a different allotment scheme than the scheme provided by the FCC. We were unable to reconcile the difference in results. A list of discrepancies follows:

Station	City, State	3/31/98 FCC Run	6/29/98 Dataworld Run
WHWH	Princeton, NJ	1680	1700
WSVA	Harrisonburg, VA	1700	1680
WKTP	Jonesborough, TN	1680	1700
WZNN	Rochester, NH	1700	1680
WEUP	Huntsville, AL	1700	1680
WONX	Evanston, IL	None	1680
KMLB	Monroe, LA	1680	1700
KLAT	Houston, TX	1690	1680
KNRB	Fort Worth, TX	1630	1690

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KYUU	Liberal, KS	None	1700
KVRG	Soledad, CA	1620	None
WTDY	Madison, WI	1670	None
WMHG	Muskegon, MI	1680	None

### Conclusions

The FORTRAN programs only utilized 72 radial azimuths for each station. With today's computer technology, it is feasible to make such calculations with 360 radials, which would yield much greater accuracy in determination of interference and service areas and resulting ranking factors. Being unable to run the FORTRAN programs, we were unable to ascertain exactly how the FCC performed its improvement factor calculations.

We were unable to duplicate the FCC's allotment plan results using the "C" programs and data supplied by them. Since we could not obtain the same output results as the FCC for the relatively simple "C" programs, a question is raised whether erroneous information could have been created by other related programs, such as the pre-processor and ranking software.

Two general conclusions can be advanced in view of the foregoing:

- 1) I do not know of any broadcast station that would have the computer expertise necessary to attempt a verification of the FCC allotment process.
- 2) It is not possible at this juncture to determine whether the FCC correctly concluded that WGNV was not entitled to an allocation in the Expanded Band (assuming no preclusive effect for Federal TIS stations).

Due to the complexity of the computer programs, and the very different output results obtained compare to the FCC when we ran their allotment programs, I believe that there is a strong possibility that errors of even a subtle nature may have resulted in erroneous results at some point in the FCC's process, which would make the allotment plan generated by the FCC invalid.

Sincerely,



Hank Brandenburg  
Executive Vice President

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